express concern, that without at least preliminary cost information, the competitors had insufficient information upon which to base market choices. Where appropriate, Bell Atlantic-New York offers cost estimates based upon those filed in Phase 3 of the network element proceeding.

Two other parties offered proposals. COVAD proposed an identified space collocation option, calling for competitive LEC equipment to be placed alongside the incumbent's frames, as in a virtual collocation arrangement. Unlike virtual collocation, however, COVAD envisions the competitor installing and maintaining its equipment, employing some range of security measures to protect the incumbent's equipment.

Finally, AT&T proposed recent change capability, a software-based option in a preliminary stage of development, allowing competitors to connect disabled loops and ports to existing Bell Atlantic-New York customers without manual disconnects and reconnects.

OVERVIEW

Proposed Methods

The methods proposed by Bell Atlantic-New York share an underlying design, represented in that company's Exhibit 1 (Appendix B). They are all manual methods, and require a Bell Atlantic-New York technician to make a manual cross connection using jumper cable from Point A to Point F; run tie cables from F to G and from E to D; competitor personnel or their surrogates make the cross connection from G to E.[1] In contrast, providing service to an existing Bell Atlantic-New York customer requires

[1] RCN's Brief, p. 3; WorldCom's Brief, p. 3.

connection of A to B.[1] Within this structure, Bell Atlantic-New York offers to make available a variety of mechanisms to realize these connections; competitors expressed interest in utilizing specific mechanisms, depending upon their own facilities and market entry plans; they also requested certain modifications. In addition, some competitors consider all the manual proposals technologically retrograde, unnecessarily expensive, and discriminatory, inasmuch as Bell Atlantic-New York makes a single cross connection on the MDF to connect a link and a port for its own customer.[2]

Generally, competitors criticize Bell Atlantic-New York's proposals for the dependence upon manual connections, with their potential for introducing human error;[3] many competitors see these proposals as a technological step backwards and discriminatory, in that Bell Atlantic-New York may connect its customers using digital methods. Bell Atlantic-New York indicates a generally lower installation trouble rate and shorter mean time to repair for competitors' lines than for its own retail installations. However, although failure rates are low,

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[1] Customers served by digital loops--now 7% but a growing proportion--are combined or multiplexed onto a digital carrier, typically Integrated Digital Loop Carrier (IDLC), and transmitted to a central office. These loops are not individually separated and cross connected at the Main Distribution Frame (MDF), but go through a digital cross connection directly into the switch. To employ any of the incumbent's methods may require replacing the digital loop with copper to allow a manual connection.

[2] WorldCom's Brief, p. 6.

[3] A Bell Atlantic-New York technician demonstrated a manual cross connect during the technical conference, using the gun-style tool used by the company's frame technicians (Tr. 310-312). In fact, the tool failed to complete the connection correctly on the first attempt; the failure was immediately identified and remedied. Parties are polarized as to the efficacy and error rates of these manual functions, some competitors asserting all manual connections are opportunities for failure, the incumbent asserting its tools and methods are essentially error-free.

it is difficult to draw a meaningful conclusion, because in absolute numbers the competitor lines represent a tiny proportion of Bell Atlantic-New York's loops: roughly one tenth of one percent.[1]

A second common concern of competitors is the potential for exhaustion of collocation space, both building space and MDF space. Of concern was Bell Atlantic-New York's inability to respond to questions concerning availability of space or the need for MDF expansion.[2] Moreover, facilities-based competitors that employ collocation for their own networks express concern that finite space resources will be used unnecessarily for competitor element combination purposes. Finally, perhaps of greatest import, competitors stressed the limitations to Bell Atlantic-New York's capacity to fill collocation orders. According to Bell Atlantic-New York, the interval for provision of physical collocation is 76 business days; for virtual collocation, 105 business days. According to the Pre-filing, at current capacity Bell Atlantic-New York can provision 15 to 20 new collocation arrangements monthly.[3] Although Bell Atlantic-New York charges that lack of competitor forecasting constrains its collocation scheduling, it only offers to attempt to smooth demand through negotiations with competitors: a proposal read by competitors as signalling longer intervals.[4]

Nor do the modified collocation proposals offer significant time savings. The various collocation proposals all require approximately the same intervals. Further, Bell Atlantic-New York's witness testified it could take from six to 18 months to augment an MDF if additional space were needed;[5] and

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[1] Bell Atlantic-New York Response to Data Request 9S.

[2] *See* Bell Atlantic-New York Response to Data Request 15; Tr. 259-260.

[3] Bell Atlantic-New York Pre-filing, p. 23.

[4] TCG's Brief, p. 5.

[5] Tr. 276.

the incumbent could not respond to a data request concerning any existing surveys of available MDF space statewide.[1] This collocation pace appears inadequate to meet mass market demand.[2] Bell Atlantic-New York claims that it can provision 300 lines a day in each of its 550 central offices, for a total of 41 million lines per year. However, this claim was illustrative of a theoretical maximum, rather than actual current capacity.[3] The incumbent's calculations of demand are premised upon current demand for cross connects and MDF space in central offices, rather than what is likely to be the demand in a genuinely competitive market, in which customers not only move to competitors and back to the incumbent, but between competitors.

Proposed General Findings

The ultimate issue in this proceeding is whether any, or some combination of, the options offered by Bell Atlantic-New York and other parties comply with the incumbent's §251(c)(3) duty to provide unbundled network elements in a manner that allows requesting competitive carriers to combine them in order to provide telecommunications service. This incumbent local exchange carrier obligation implies, at its core, that competitors have a method to combine elements that, while it need

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[1] Tr. 259; Bell Atlantic-New York Response to Data Request 15.

[2] An end-user party, DOD, for example, urges the Commission to give competing carriers the maximum flexibility to offer services in competition with Bell Atlantic-New York, and to increase the opportunities for competitors to provide innovative services. As an end-user, it attests that the development of competition has been slow outside of regions with a high concentration of business subscribers. DOD explains its need for reliability, redundancy, service quality and technical innovation. DOD urges the Commission to require Bell Atlantic-New York to demonstrate that competitors will be able to use elements efficiently and combine them in any technically reasonable configuration, holding the incumbent to the burden of proving that competitors can efficiently combine elements.

[3] Tr. 119; Bell Atlantic-New York Response to Data Request 11.

not be perfect, is commercially reasonable and nondiscriminatory with respect to ubiquity, cost, timely provision, service quality, and reliability. To its credit Bell Atlantic-New York has developed smaller-cage, shared, and collocation assembly options in accord with the Pre-filing. Several competitors have taken advantage of or indicated interest in these offers.

However, without reaching the issue of whether collocation, in the abstract, as a matter of law constitutes a nondiscriminatory form of obtaining and combining elements, as a matter of fact on this record and under these conditions, none of the methods or combinations of methods offered by Bell Atlantic-New York can be said to meet this test. The lack of a demonstrable software method or its equivalent means that a mass market entry competitor is unlikely to be able to obtain and combine loops and ports ubiquitously on a mass scale. At this time, the availability of network elements on the terms and conditions contained in the Pre-filing serves this purpose. This record indicates unequivocally that Bell Atlantic-New York's options alone, absent provision of the platform (or another electronic or otherwise seamless and ubiquitous method), are unacceptable to support combination of elements to serve residential and business customers on any scale that could be considered mass market entry. Given this record, at this time, absent the provision of the element platform pursuant to the Pre-filing, Bell Atlantic-New York would be in compliance neither with §251(c)(3) nor, consequently, §271(c)(2)(B)(ii).

With the Pre-filing in place, however, and assuming Commission resolution of the enhanced extended link issues, Bell Atlantic-New York's options provide adequate opportunity for market entrants to serve residential and business customers, including business customers in the New York City central offices in which at least two collocation cages are housed.

Based on the parties' filings, comments upon options, evidence adduced at and following the technical conference, post-conference briefs, the advisory Staff investigation, and review of the records in related pending Commission proceedings, my

overall recommendation is that the Commission approve a group or menu of options to be provided by Bell Atlantic-New York to offer unbundled network elements to its competitors so as to allow the requesting carriers to combine these elements to provide telecommunications service. To comply with the Act, this menu must include either the Pre-filing terms and conditions, or some comparably effective electronic or otherwise ubiquitous and timely interface for network element provisioning and combination.

THE LEGAL ISSUES

The Legal Obligations of the Incumbent

Bell Atlantic-New York asserts that its offerings exceed the requirements of the Act. In its view, its voluntary agreement to provide competitive LECs with certain combinations of elements, and its alternatives to traditional collocation, meet its obligation under §251(c)(3) of the Act. Because its Pre-filing offers certain combinations of network elements--the switch sub-platform and enhanced extended loop--Bell Atlantic-New York asserts it has reduced the competitive LECs' need to combine elements themselves to the combination of loop and port. Further, it asserts that its assembly room and assembly point offerings alleviate the need for central office conditioning, providing a more available and less expensive method to combine voice grade loops and ports.

AT&T asserts that Bell Atlantic-New York must demonstrate that competitive LECs can access unbundled network elements and combine them in accordance with §§251 and 252, in order to satisfy the requirements of §271(c)(2)(B)(ii). It asserts that Bell Atlantic-New York's options, which it characterizes as variations on the theme of manual attachment of jumper wires and mandatory collocation, are inadequate and discriminatory under §251 and the Eighth Circuit decision. AT&T asserts its software combination proposals satisfy the Act, and provide the sole basis for non-discriminatory and pro-competitive market entry.

Parsing §251(c)(3), AT&T asserts that the incumbent must first abide by the terms and conditions of its interconnection agreements, negotiated in good faith, arbitrated by state commissions, and approved by those commissions subject to federal judicial appeal.[1] AT&T therefore takes issue with Bell Atlantic-New York's statement of its legal obligations: that its voluntary agreement under the Pre-filing to provide competitive LECs with certain combinations and access to unbundled elements through methods other than collocation are beyond what is required by the Act, and therefore it meets its §251(c)(3) obligations with its voluntary Pre-filing. AT&T argues that no voluntary offer by Bell Atlantic-New York comports with the Act requirements. In addition, it asserts Bell Atlantic-New York's formulation deprives competitive LECs of their rights to good faith negotiation, arbitration, litigation over the approval of agreements and federal judicial appeal.

At present, this issue is under consideration by the Commission in the context of a petition for declaratory and other relief by AT&T and others.[2] The respective rights and obligations of the parties under tariff and interconnection agreements are the subject of negotiations and other proceedings as well. However, without reaching this legal issue here, as a matter of fact the recommended finding is that upon review of these offered options, the Pre-filing terms and conditions concerning provision of combined elements are a necessary component of Bell Atlantic-New York compliance with §§251(c)(3) and 271.

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[1] 47 U.S.C. §§251(c)(3), 251(c)(1)(3), 252(a)(b), 252(c)(1), and 251(e)(6).

[2] Case 97-C-0271, Application of Bell Atlantic-New York for In-Region InterLATA entry - Joint Motion for Declaratory Judgment and Stay of Proceedings.

The Asserted Requirement of
Physical Separation and Reconnection

Bell Atlantic-New York asserts the Act and the Eighth Circuit decision require a physical separation or unbundling of network elements, and a concomitant physical recombination of these elements by competitors. In its view, AT&T's recent change proposal or, for that matter, any method not entailing physical, manual disconnection of the loop from the port, fails the Eighth Circuit test. It characterizes AT&T's recent change proposal as requiring merely the deactivation and reactivation of the loop, as customers were taken out of service and then restored, as a result of competitive LEC instructions to the incumbent's switch. Bell Atlantic-New York, supported by Time Warner, maintains that the functions carried out by a hypothetical recent change method would not constitute the unbundling of the loop and port by the incumbent and their recombination by the competitor within the meaning of §251(c)(3) of the Act, as interpreted by the Eighth Circuit. In other words, Bell Atlantic-New York rejects logical unbundling on the ground that only a physical disconnection, and physical reconnection of the loop and the port, conform to the Act and Eighth Circuit requirements.

AT&T replies that Bell Atlantic-New York's witnesses referred to the recent change process as disconnection; and that taking the customer out of service by electronic, as opposed to manual, means, complied with the Eighth Circuit requirements.[1]

While ubiquitous, timely recombination, consistent with mass market entry, is essential, that requirement is best fulfilled in New York at this time by the Pre-filing terms and conditions, in conjunction with Bell Atlantic-New York's other

[1] In MCI's view, by contrast, neither the incumbent nor the AT&T options comply with the Act; MCI urges the Commission to hold that only by providing competitors with MCI's proposed forms of already-combined elements will Bell Atlantic-New York be consistent with §251(c)(3). As this proceeding was narrowly defined to consider options for competitor recombining of elements, MCI's proposals were not admitted at the technical conference.

offerings. The only electronic method under consideration for competitors to combine elements themselves, AT&T's recent change proposal, is insufficiently developed to be adopted at this time. However, further exploration of the development of this option in relation to the incumbent's existing or legacy systems is warranted.

As a threshold matter, the proposed finding is that if an electronic system functionally unbundles and recombines elements, in today's network, that complies with the Act.[1] As the Eighth Circuit held, a competitor need not have facilities of its own in order to obtain access to the incumbent's network elements.

The Standard of Review

While this proceeding was initiated by the Commission as an stand-alone inquiry, its genesis is in parallel proceedings pursuant to state law and §§251, 252, and 271 of the Act.[2] In examining options, criteria were adopted to evaluate compliance with (1) the Act; (2) the policies and precedent of this Commission; (3) current federal judicial case law; and (4) the Bell Atlantic-New York Pre-filing.[3] In order to meet these standards, an option must be universally available, and must be provided pursuant to interconnection agreements, as well as under tariff. In addition, to meet the "nondiscriminatory" requirement of §251(c)(3), there should be, if not identity, rough comparability between the burden Bell Atlantic-New York places upon its own retail operation to combine elements and provide them to customers, and that placed upon competitors to do the same.

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[1] The term "network element" includes "features, functions, and capabilities." See 47 U.S.C. §153(29).

[2] 47 U.S.C. §§251, 252, and 271.

[3] Case 97-C-0271, Pre-filing Statement of Bell Atlantic-New York, filed April 6, 1998 (the Pre-filing).

Components of this comparable burden include whether options are provided on a commercially reasonable, timely basis, and whether they function in such a way as to allow a competitor to obtain and combine network elements on a scale that is consistent with reasonable expectations of competitive volumes. Options were examined for ease of competitive entry, and for compatibility with the eventual development of facilities-based competition in New York. Options were examined as to their impact on the service to end-users, customers of both incumbent and competitor carriers; and their impact on the security and reliability of the network. Finally, options were analyzed for ease of customer migration to a competitor's own facilities, to another competitive LEC, or back to Bell Atlantic-New York.

These criteria were presented to the parties in rulings and at the Technical Conference. Parties were invited to comment on or add criteria; as none did, these are considered accepted as the relevant standards by which to measure the options. Parties ranked, in testimony and in brief, the options presented on a numerical scale from one to 10, in these categories.

The method employed is not based on the assumption that the goal is to recommend one panacea. In light of the diversity of market entry strategy, customer base, financial concerns, and timetable of the players in the New York competitive market, the goal is to present the Commission with a range of options, toward the end of ensuring that Bell Atlantic-New York provides its competitors a menu of choices that, as a totality, complies with these criteria. Indeed, competitors did not agree with each other as to which options were preferable, and evinced diverse strategies and needs. This heterogeneity invites a menu approach to produce a working model for element combination by competitors.

Bell Atlantic-New York's
Enhanced Extended Link Offering

Although the purview of this proceeding was defined narrowly in the instituting order, at the technical conference a

considerable amount of effort was expended to clarify and define Bell Atlantic-New York's enhanced extended link offering, a Bell Atlantic-New York combination of elements. Its availability affects the utility of the other combination options. The extended link offering eliminates the need for physical collocation in every Bell Atlantic-New York central office, dramatically reducing costs and expanding the competitively reachable customer base. Facilities-based competitors see the potential, in this offering, of making competitive services available to smaller users and less densely populated areas. Facilities-based competitors indicated that the combination of loops with central office multiplexing functions and interoffice transport was of critical concern, as offering to promote the fullest deployment of new technologies and diverse services.[1] During the technical conference, however, it appeared that Bell Atlantic-New York indicated it would restrict the use of extended link to the provision of local exchange dial tone service.[2]

Facilities-based competitors argue this restriction violates the Act and the terms of the Pre-filing, and assert Bell Atlantic-New York would requires competitors to downgrade their networks from their advanced DS1 and DS3 capabilities to Bell Atlantic-New York's DS0 architecture. Citing Bell Atlantic-New York promotions for free technology upgrades, competitors charge the restriction is "profoundly anti-competitive."[3] e.spire views enhanced extended link as the most attractive proposal advanced, and urges the Commission to define it as an unbundled network element and to ensure it is offered free of any restrictions.[4]

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[1] Intermedia's Brief, pp. 1-2. Also of concern to Intermedia was that Bell Atlantic-New York presented enhanced extended link as a voluntary offering; Intermedia and CompTel urge the Commission to define enhanced extended link as a network element and require Bell Atlantic-New York to provide it to competitors irrevocably and without restriction (Tr. 625).

[2] Tr. 764-767, 773.

[3] Intermedia's Brief, p.3.

[4] e.spire's Brief, pp. 2-4.

Bell Atlantic-New York, following the technical conference, chose not to address these arguments, pending its expected tariff filing including this offering.[1] To avoid duplicative litigation, and because the tariff was filed subsequent to these parties' comments, issues related to enhanced extended link will be treated in the tariff review process, not here. However, Commission resolution of these issues is a component of §251(c)(3) compliance.

THE OPTIONS FOR NETWORK ELEMENT COMBINATION AND PROPOSED SPECIFIC FINDINGS

Grouping the numerous options sponsored by parties, there were six distinct methods proposed, with some different subsets within several of the options. The six options are: (1) physical collocation (traditional, small cage, and shared cage) (Bell Atlantic-New York); (2) SCOPE (Bell Atlantic-New York); (3) identified space collocation (Covad and Intermedia versions); (4) virtual collocation with robot (Bell Atlantic-New York); (5) assembly room/point (Bell Atlantic-New York); and (6) recent change memory (AT&T). Each option is analyzed below, taking into consideration the sponsors' initial filing and other parties' comments; the technical conference; subsequent responses to data requests; Staff conferences with parties and Staff investigation; the parties' post-technical conference briefs; and portions of the records and filings of related proceedings, where appropriate.

Option I -- Physical Collocation and Shared Cage

Traditional physical collocation generally allows a competitive LEC to place its equipment in an environmentally conditioned, secured area of Bell Atlantic-New York's central office.[2] Specifically, Bell Atlantic-New York constructs a 100-

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[1] Bell Atlantic-New York's Summary Presentation, p. 2, n. 2.

[2] Tr. 64.

square foot locked wire fenced-in area, or cage, in a segregated area of its central office building and the competitive LEC is allowed to place its transmission and multiplexing[1] equipment in the dedicated caged space. For combining elements, the competitive LEC installs a simple frame cross connect, and Bell Atlantic-New York runs tie cables from the switch and link sides of its MDF[2] to the competitive LEC frame in the cage. In addition, Bell Atlantic-New York would make cross connections at the MDF.

Bell Atlantic-New York has now offered to construct less costly 25-square foot cages to allow a competitive LEC that doesn't need the larger space for access to unbundled elements. In addition, the 25-square-foot cages may allow collocation in central offices lacking space for the larger cage.

Bell Atlantic-New York also offered to allow caged areas to be shared among competitive LECs. In this case, a collocated competitive LEC may host another competitive LEC. Bell Atlantic-New York anticipates no additional costs resulting from a shared cage. Bell Atlantic-New York would charge the host competitive LEC but accept orders from both the host and the subsequent occupants.

1. The Sponsor's Evaluation

Bell Atlantic-New York asserts the efficacy of these methods can be demonstrated easily and implemented quickly.[3] It currently has 61 central offices with physical collocation.[4]

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[1] A multiplexer allows two of more signals to pass over one communications circuit: a telephone line, microwave circuit, or television signal.

[2] The MDF is a wiring arrangement that connects the telephone lines coming from outside the central office, on one side, and the internal lines on the other. An MDF may also carry protective devices and function as a central testing point.

[3] Tr. 133-35.

[4] Response to Data Request #17.

Bell Atlantic-New York also asserts that these methods adequately can handle anticipated volumes. It can complete 300 combinations per day per office, which it asserts is a reasonable volume.[1] As many as 10,000 combination pairs fit in the 25-square foot cage, while the capacity of the 100-square foot cage is virtually unlimited.

Bell Atlantic-New York admits, however, that if a competitive LEC does not intend to put in its own facilities, and simply wants to market combinations of loops and ports, physical collocation is not a viable method,[2] because it is not cost-effective unless the competitive LEC needs physical collocation to locate other equipment in order to provide service over its own facilities.

Bell Atlantic-New York states that physical collocation poses minimal adverse impact on end users and network facilities, since the unbundled network elements are being combined on facilities which, except for the competitive LEC cross connect frame, are still within its control.[3] In its estimation, a shared cage would have a slightly higher possibility of adverse impact because of commingling of equipment of several carriers.

Bell Atlantic-New York states that these physical collocation methods allow a competitive LEC easily to migrate a customer to its own facilities-based service, since the customer's loop is already terminated at the competitive LEC cross-connect frame.[4] The competitive LEC would have to add transmission equipment, if none were present. Further, Bell Atlantic-New York asserts these methods allow for a customer to

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[1] Tr. 133-35.

[2] Tr. 137.

[3] Tr. 140.

[4] Tr. 141.

easily migrate back to Bell Atlantic-New York or another competitive LEC.[1]

Bell Atlantic-New York assessed space availability in 100 of its 522 central offices; standard physical collocation is provided in 75 locations. Of those 100 offices, 89 offices could support additional traditional physical collocation. Eleven have no room to support additional 100-square foot cages. Eight of these can accommodate 25-square foot cages; two cannot. The capacity in the other 422 central offices is undetermined.[2]

While physical collocation assertedly makes simple the transfer of customers currently physically connected to Bell Atlantic-New York's switch, another step is required for the roughly seven percent of customers currently served by digital technology.[3] Links of customers served by Integrated Digital Loop Carrier (IDLC) could not be as easily unbundled. Bell Atlantic-New York notes that it would have to transfer the customers' service either to Universal Digital Loop Carrier (UDLC) or to an available copper pair,[4] before a competitor could combine the loop with either its own or a Bell Atlantic-New York port.

2. Other Parties' Evaluations

Some competitors, for example, e.spire, have found traditional physical collocation often unavailable, sometimes technically unnecessary, and prohibitively costly.[5] e.spire does, however, support the 25-square foot cage alternative.

As to the impact on network reliability and end user service, AT&T states it wouldn't take advantage of collocation to

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[1] Tr. 142.

[2] Tr. 105; Bell Atlantic-New York Response to Data Request 16S.

[3] Bell Atlantic-New York Response to Data Request 4.5.

[4] Tr. 120.

[5] e.spire's Brief, p. 5.

combine Bell Atlantic-New York's loops and ports even if offered gratis, because of the potential customer harm, citing central office plant operating error as order volumes dramatically increase.[1] Intermedia also notes the additional test points that are inserted by this or any other physical method portend longer repair times.[2]

COVAD asserts that competitive LECs endure "retrograde, laboriously slow, costly, and non-ubiquitous methods of physical collocation."[3] It views Bell Atlantic-New York's proposals as impractical for efficient offering of innovative, high bandwidth services to residential and business neighborhoods in New York State. COVAD, which intends to deploy digital subscriber line (DSL) technologies,[4] asserts its business entry strategy depends upon collocation in Bell Atlantic-New York central offices on a "blanket-area basis."[5] Its concern is that a significant percentage of offices will, according to Bell Atlantic-New York's unilateral determination, have no space for collocation cages, and that the incumbent's collocation provisioning practices will not provide a swift, efficient, and ubiquitous coverage. In contrast, Bell Atlantic-New York asserts 28 standard collocation sites are about to be turned over to COVAD.

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[1] Tr. 195-96.

[2] Tr. 181.

[3] COVAD's Comments, p. 1.

[4] COVAD defines DSL to cover the range of digital technologies enabling the provision of high-speed data and basic voice transmission services over copper loops.

[5] COVAD's Comments, p. 3.

3. Discussion

Collocation was developed as a method for facilities-based competitive access or service providers to establish a point of presence at the incumbent local exchange carrier's central office, in order to route traffic to and from their own remote switches. In all of its variety of forms, it is well-established to serve that purpose. At issue is whether collocation is a nondiscriminatory offering for the purpose of allowing competitors to access and combine the incumbent's unbundled network elements.

On its face, physical collocation allows a competitive LEC that is currently collocated in a Bell Atlantic-New York central office to combine network elements. The possibility of shared space may also allow a competitive LEC not currently collocated to gain access in order to combine elements. However, the record gives cause for concern about space availability for new competitive LECs. The availability of space in over 400 offices is unknown. While the addition of the 25-square foot cage option might alleviate the space shortage, it is a limited solution. The record shows that the shared space might not provide for easy migration to facilities-based service if more space is needed for transmission equipment and the loops have to be moved to another location.[1] In addition, the smaller space was not shown to be sufficient for combining services other than POTS.[2]

The record also reveals that Bell Atlantic-New York can construct a limited number of cages in a month--15 to 20.[3] Combined with the 76- to 105-business-day-wait to build a cage--and that only if forecast by the competitive LEC--market inroads via combining elements will be tediously slow, insufficient to

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[1] Tr. 200.

[2] Tr. 212.

[3] Tr. 157.

handle possible ubiquitous mass market entry on a commercially reasonable schedule.[1]

Further, Bell Atlantic-New York concedes that the cost of collocation, if used strictly for combining unbundled elements, is not attractive.

4. Proposed Finding

Traditional physical collocation is a commercially reasonable and highly effective method for competitive LECs to obtain and combine elements where the competitive LEC is already collocated or intends to collocate for additional purposes. Traditional physical collocation is not an economical choice solely for the purpose of combining Bell Atlantic-New York-provided loops and ports; nor has it been shown to be ubiquitously available statewide. Small-cage and shared-cage collocation mitigate the cost burden, but have capacity and security limitations.

Option II -- Secured Collocation Open Physical Environment (SCOPE) (Bell Atlantic-New York)

SCOPE is a physical collocation area located in a secured part of the central office, but without a cage enclosure around an individual competitive LEC's equipment. SCOPE entails a conditioned environment identical to a traditional physical collocation environment. The SCOPE is isolated and separated from Bell Atlantic-New York, central office environment, differentiating SCOPE from virtual collocation. Using SCOPE, the collocator is responsible for the installation and maintenance of its equipment. SCOPE uses a shared point of termination (SPOT) bay[2] that may be shared with other competitive LECs using SCOPE.

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[1] Tr. 180.

[2] A point of termination bay is a small distribution frame adjacent to a collocation area. It is used to cross connect ILEC cabling from an MDF to the competitive LEC cabling. A SPOT bay is used for multiple competitive LECs.

The collocator can place equipment in this arrangement and expand its capacity by adding increments to the frames on the SPOT. SCOPE requires substantially less space per competitive LEC than traditional physical collocation.

1. The Sponsor's Evaluation

Bell Atlantic-New York concludes that SCOPE is a workable method of collocation and that it has the capability to implement SCOPE now.[1] The interval for provisioning a SCOPE collocation arrangement is 76 business days, although if physical collocation already exists in an office, installing SCOPE may be faster. Adding a second competitive LEC to an already established SCOPE arrangement may reduce the required installation time. As to SCOPE's ability to handle anticipated volumes, Bell Atlantic-New York asserts SCOPE can meet any reasonable expected volume for combinations.

As to cost effectiveness, Bell Atlantic-New York and some competitive LECs agree that this is not the plan for a competitive LEC to use solely for loop and port combinations.[2] Bell Atlantic-New York asserts the allocation of cost for SCOPE space is reasonable. The cost is amortized based on proportional amount of floor space being used, which can be as little as 15 square feet.[3] SCOPE is less expensive than traditional physical collocation because the competitive LEC is buying only enough space for its equipment, rather than a larger portion of the central office.[4] In addition, service access charges may be less in a SCOPE arrangement because some POT bay elements are shared.[5]

As to end user impact, the cageless environment

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[1] Tr. 332.

[2] Tr. 333.

[3] Tr. 439.

[4] Tr. 322.

[5] Tr. 378.

compromises the security of the system, because of the open access to all collocated competitive LECs. The installation of cabinets around the competitive LECs equipment in the SCOPE environment may minimize some of the security risk inherent in an open environment.[1]

2. Other Parties' Evaluations

All parties agree that SCOPE has been demonstrated to be a workable collocation arrangement. The facilities-based competitive LECs believe SCOPE is a viable alternative collocation option, but is unnecessary simply as a method to provide unbundled network elements. The facilities-based competitive LECs state that alternatives are positive and suggest that innovation should be encouraged.[2] Other competitive LECs agree that SCOPE works, but consider it altogether unnecessary.[3] Intermedia disagrees with Bell Atlantic-New York's calculation of the amount of space required, and the attendant cost.[4]

Competitors question how long it will take to provision SCOPE with a limited workforce, which also will affect Bell Atlantic-New York's ability to handle increasing volume.[5]

As to volume transactions, Intermedia believes that, once built, SCOPE can accommodate more competitors more quickly than other collocation methods.[6] There is support for the conclusion that SCOPE will be able to handle foreseeable volumes.

With regard to security arrangements, Intermedia states it has had no problem with security in a similar arrangement in Florida, in which entry is restricted by access cards with an

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[1] Tr. 319.

[2] Tr. 404, 414.

[3] Tr. 403, 413.

[4] Tr. 324.

[5] Tr. 397, 405.

[6] Tr. 327-328.

electronic log.[1] Bell Atlantic-New York counters that system-wide installation of central office card readers would be both ineffective and very expensive.[2] It also notes it has no universal policy on vendor access to its buildings: security ranges from the methods of procedures for specific jobs in New York City's manned buildings to those for unmanned central offices in rural upstate New York. In addition, there are different security standards for janitorial staff, vendors, and contractors,[3] driven by duration of a contract or relationship rather than type of service.[4] Bell Atlantic-New York has had some problems with theft, whereas Intermedia reports none in its Tampa and Atlanta offices even when equipment is left unsecured in the common area.[5]

As to migration of customers, AT&T asserts this method fails to provide parity with Bell Atlantic-New York because of the additional cross-connects required of competitors.[6] In addition, SCOPE is limited in that the competitor acquiring the customer must be collocated in the same central office.

Concerning the ability to provide SCOPE in a timely manner, issue was joined as to how many technicians can work on an MDF efficiently. Considering the pressure on central office space, Bell Atlantic-New York states that space demands for its own internal purposes are much greater than those from the competitive LECs.[7] Also troubling to competitors is the lack of information concerning Bell Atlantic-New York's ability to expand MDFs as necessary to accommodate collocation demand.

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[1] Tr. 444.

[2] Tr. 445.

[3] Tr. 364-366.

[4] Tr. 452-453.

[5] Tr. 347.

[6] Tr. 401.

[7] Tr. 256-257.

3. Discussion

As with other collocation methods, SCOPE adds cross-connects to the system, which adds human error to the equation of network security and end-user impact. Although several competitive LECs felt this was not an insurmountable problem, others felt this could degrade customer service and increase the possibility of customer outage.[1]

Some competitors were most concerned about SCOPE costs; aside from this, network security is the most troubling issue attending this option. Bell Atlantic-New York and the competitive LECs agree that the risk assumed by the competitive LECs using SCOPE is greater than in a secured traditional physical collocation environment. SCOPE does have a limited measure of security because it is located inside the central office building; however, competitive LECs would not have parity with the incumbents's security. Varying levels of security were requested by different competitors; competitors' collocation choices may depend on the number of customers and type of equipment. Diverse levels and methods of security to be maintained by Bell Atlantic-New York in the SCOPE environment were discussed, including limiting access and the use of keys or cards. The competitive LECs also have the flexibility to install cabinets around their equipment.

As to the ability to migrate facilities, SCOPE has definite strengths. There is no inherent problem with a migration of facilities to the incumbent or a competitor, with coordination. Some facilities-based carriers expressed that migration to a new carrier using the combination of SCOPE and extended link is what they need today.[2]

Concerning migration to other carriers, SCOPE's limitation is that the competitive LEC must be collocated in the same central office, and that extensive coordination may be

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[1] Tr. 329, 335, 396.

[2] Tr. 335.

necessary between the affected carriers. As Bell Atlantic-New York stated:

> Relative to migration to other carriers, it rates a little lower because it will require extensive coordination between carriers flipping customers . . . it is going to require coordination beyond just Bell Atlantic in that you are going to flip a customer from your space to somebody else's and right now from a CLEC perspective we're probably not very good at doing that and that's an honest answer.[1]

SCOPE is advantageous to facilities-based competitive LECs, and they generally support it. Competitive LECs are able to maintain their own equipment and select their own vendors; however, some prefer the enhanced extended link option to be provided with SCOPE. SCOPE provides parity with Bell Atlantic-New York in the amount of time for installation of cabling and reduces costs, essential for competitors effectively to enter the market. On the other hand, installation of a SCOPE arrangement is a lengthy process--the interval is 76 business days, or approximately 60 business days if it is the second competitive LEC in an area where there is room in an established SCOPE area.

Finally, competitors request a modification of SCOPE to permit them to run cross-connects among their installations in a SCOPE configuration, currently not allowed by Bell Atlantic-New York.[2] Competitive LECs protest that Bell Atlantic-New York requires them to purchase either its tariffed dedicated cable support or dedicated transit service to connect their equipment in the SCOPE offering, while in a shared collocation cage competitive LECs are free to cross-connect among their installations without restriction. This issue should be explored by the parties during the collaborative session.

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[1] Tr. 329.

[2] See e.spire's Brief, p. 6; Tr. 269, 433; Bell Atlantic-New York Responses to Record Requests 15.5 and 19.

4. Proposed Finding

SCOPE can be made available in offices with limited or no traditional physical collocation space; it is an attractive alternative to some competitors. The greatest concerns are those of security and network reliability. To address these concerns, competitive LECs should be required to place locked cabinets around their equipment or institute such other security measures as can be determined through the scheduled collaborative discussions, subject to Commission approval. Also of concern are the installation intervals.

Option III -- Identified Space Collocation (COVAD)

Under this proposal a collocator would install and maintain its own equipment in a central office in a defined, finite, and separated space. Collocators' equipment, racks and shelves would not be commingled with those of the incumbent, but would be intermingled with that equipment throughout the central office where there is available space.[1] The equipment, installation and procedures involved would meet standard, non-discriminatory industry requirements. Collocators would pay pro-rata rental charges for the central office space utilized.

Since collocator personnel and equipment are not physically segregated from the incumbent's, alternative security arrangements are of particular significance in this proposal. An Intermedia variation is to allow competitive LEC personnel escorted by a Bell Atlantic-New York security escort into the incumbent's central office to access virtually collocated equipment.[2]

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[1] This distinction is made based on the fact that competitive LEC equipment would be placed in identified racks dedicated to particular collocators; in this sense it is segregated from Bell Atlantic-New York's equipment.

[2] Intermedia's Brief, p. 7.

1. The Sponsor's Evaluation

COVAD ranks this as the most desirable overall of the available collocation options, assigning it numerical scores in each category equal to, or higher than, all other collocation approaches.[1] COVAD asserts this approach has multiple advantages compared to all other collocation methods, and only one potential disadvantage. Moreover, this method makes the best use of all available central office space.

COVAD believes that potential network security issues have been overblown by Bell Atlantic-New York, and that security measures can be tailored to the circumstances of each central office. Under its interconnection agreement with US WEST, COVAD asserts it will install and maintain its own equipment in US WEST's premises without the use of a cage.[2] It is allotted a separate, identifiable central office floor space in a non-caged area of the central office, in single-frame bay increments. In that space, COVAD may install equipment on its own racks and shelves, not commingled with those of US WEST. Space is made available within 45 days, where space and power are available, and COVAD pays rent based on its pro-rata share of space. COVAD asserts that US WEST is making this form of physical collocation available throughout its 14-state region. COVAD asserts that Bell Atlantic-New York overstates the security risk, that competitive LECs have an incentive to minimize harm to the network, that cageless arrangements are common in the telecommunications industry, and that Bell Atlantic-New York currently permits third party contractors to install equipment on a non-caged basis pursuant to its methods of procedure. COVAD cites the FCC concerns that the construction cost of physical security arrangements could serve as a significant barrier to entry and that incumbents have an incentive and the capability to

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[1] COVAD's Brief, Table 1.

[2] COVAD has not yet completed any non-cage collocation arrangements in Washington. Tr. 492-493.